United States Department of State

Bureau of Political-Military Affairs
Directorate of Defense Trade Controls

Washington, D.C. 20520-0112

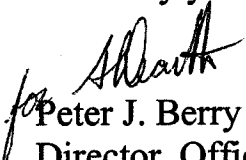In Reply Refer to
DTC Case **TA 2578-04**

NOV - 3 2004

Mr. Robert Sperling
a.i. solutions
10001 Derekwood Lane, Suite 215
Lanham, MD 20706

YOUR LETTER DATED: September 27, 2004
AGREEMENT FOR: Technical Assistance
FOREIGN LICENSEE: Alcatel Corp. – France
COMMODITY: Technical Data and Defense Services for Launch Services to
Alcatel for NASA's CALIPSO Satellite

Dear Applicant:

The Department of State approves the request as identified subject to the
limitations, provisos or other requirements stated below. The agreement may not
enter into force until these requirements have been satisfied. Any request for
extension must be submitted to the Department for approval no later than 60 days
prior to the authorized expiration date.

Sincerely yours,

Peter J. Berry
Director, Office of Defense
Trade Controls Licensing

<u>LIMITATIONS, PROVISOS AND OTHER REQUIREMENTS</u>:

1. This authorization **expires December 31, 2008.**

2. Sublicensing is not authorized under this agreement.

3. The applicant may not export hardware, software, technical data or defense
services against this agreement until all parties have executed the agreement. In
accordance with 22 CFR 124.4(a), submit one copy of the signed agreement,
revised as may be required herein, to this office no later than 30 days after it enters

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into force. The applicant must inform DTC within 60 days if deciding not to execute this approved agreement.

4. If the agreement is not executed within one year of this approval, a written report as to the status of the agreement must be submitted to this office on an annual basis until the requirements of 22 CFR 124.4 or 22 CFR 124.5 have been satisfied.

5. Shipment of hardware against this agreement under the provisions of 22 CFR 123.16(b)(1) or by separate license (i.e., DSP-5, DSP-73) is not authorized. Hardware shipment may take place only after the Department of State approves an amendment to the agreement.

6. Applicant must provide NASA HQ, Export Control and Interagency Liaison Division/John Hall, 300 E. Street, SW, Washington, DC 20546, with a copy of the State-approved license and signed TAA.

7. Applicant must brief applicable NASA project managers/staff on the scope and limitations of access allowed by this license.

8. If a Technology Transfer Control Plan (TTCP) requirement is imposed, applicant must provide a copy of the approved TTCP to NASA HQ, Code ID/John Hall, 300 E. Street, SW, Washington, DC 20546.

9. To the extent that DoD participation in any audit or meeting performed by the U.S. Government is reimbursable to the DoD, NASA-provided funds shall not be used for such reimbursement.

10. The applicant MUST NOT release detailed design data or concepts, design methodology or manufacturing know-how for the Delta-II launch vehicle, components and ground support equipment. Technical procedures (to include the launch vehicle countdown procedure) that are launch vehicle specific MUST NOT be released.

11. The applicant MUST NOT provide any technical assistance to the consignee(s) that might assist the consignee(s) in the design, development or enhancement of contemplated or existing space systems, launch facilities or launch processes/operations.

12. All anomaly/problem resolution MUST be accomplished strictly by the responsible parties. Collaborative failure analysis with foreign parties is NOT

authorized. Anomaly/nonconformance/failure reports MUST be limited to functional block diagrams, top-level descriptions and drawings/schematics that do NOT reveal detailed design. Data MUST NOT contain systems engineering processes, techniques or methodologies.

13. The applicant's independent analyses products or test data released MUST be limited to results only. Design or technical analysis tools or methods of assessment (models, algorithms, databases, or software) which are NOT in the public domain MUST NOT be offered or released.

14. Information on U.S. Government (USG) systems, operations, limitations or capabilities that is NOT already in the public domain MUST NOT be offered, discussed or released.

15. Launch failure analysis or investigation MUST NOT occur under this license. In case of a launch failure, discussions or transfer of any technical data MUST be the subject of a separate license submitted for Department of State approval.

16. Technical meetings and activities between the applicant and the foreign consignee may be attended and observed by other U.S. parties. However, the other U.S. parties MUST NOT actively participate in those technical activities since they are NOT signatories to the applicant's TAA. The applicant MUST inform the other U.S. parties of this restriction.

17. There MUST be NO unmonitored or unescorted access to the launch vehicle or any controlled equipment or technical data related to the launch, unless otherwise authorized by a license. Whenever foreign nationals are present, monitoring MUST BE on a 24-hour basis by U.S. participants throughout launch preparations, satellite mating/demating, test and checkout, launch and debris recovery.

18. The applicant MUST maintain a library of released technical data subject to USG inspection and audit. The cost of DoD participation in any audit performed by the USG is reimbursable to the DoD.

Technical Assistance Agreement for CALIPSO

This agreement is entered into between a.i. solutions, Incorporated (a.i. solutions), an entity incorporated in the state of Maryland with offices at 10001 Derekwood Lane, Suite 215, Lanham, MD 20706 and Alcatel Space, a French company with offices located at 12, rue de la Baume, 75008 Paris, France (http://www.alcatel.com), and is effective upon the date of the last party to sign the agreement.

WHEREAS a.i. solutions will provide technical assessment and mission qualification pre-launch services for the Cloud-Aerosol Lidar and Infrared Pathfinder Satellite Observations (CALIPSO) satellite to Alcatel under its Expendable Launch Vehicle Integrated Support (ELVIS) contract with NASA; and

WHEREAS NASA's Langley Research Center in Hampton VA leads and manages CALIPSO for the NASA Earth System Science Pathfinder (ESSP) program and collaborates with the French space agency (CNES), Ball Aerospace and Technologies Corporation (BATC), Hampton University, Alcatel Corporation in Paris, and the Institute Pierre Simon Laplace (IPSL) in Paris. CALIPSO, scheduled for launch in April 2005, is designed to operate for three years.

WHEREAS Alcatel is responsible to design, manufacture, produce, and assemble the CALIPSO spacecraft bus, under contract to CNES;

NOW THEREFORE, the parties desire to enter into the Technical Assistance Agreement as follows:

1.   The National Aeronautics and Space Administration (NASA) has negotiated a formal Memorandum of Understanding or MOU (ANNEX A) with CNES that has the former agree to use its launch services contract to launch the French-built CALIPSO to support its operations once on orbit, checked out, and functioning; and to share the Earth science data that CALIPSO will produce. The MOU calls for the signatories' centers and contractors to produce a detailed breakout of the tasks and responsibilities of the parties called a CALIPSO Project Plan (ANNEX B) that shall be empowered by the MOU and have the force of an international cooperation agreement concluded by NASA and CNES on its behalf.

CNES has contracted with Alcatel (Exhibit 2), the builder of the PROTEUS spacecraft bus, for the CALIPSO spacecraft bus. CNES contracted with European Aeronautic Defense and Space (EADS) Sodern for the Imaging Infrared Radiometer (IIR). CNES, with help from Alcatel will integrate the payload and the spacecraft and CNES will operate the spacecraft once it is on orbit. (Note: Raytheon is also assisting CNES with this task under a separate agreement, TA 2527-02.) BATC will develop the laser detection and ranging (LIDAR) and the Wide-Field Camera (WFC) for CNES to integrate. Hampton University and IPSL will provide Co-Principal Investigators (Co-PIs) to conduct experiments with CALIPSO.

Analex Corporation has contracted with a. i. solutions, Inc. to provide the on-site payload-to-launch vehicle integration services under the ELVIS contract with NASA's Kennedy Space Center (which operates NASA's facilities at Vandenberg AFB, California.) a.i. solutions will provide rapid, accurate, and complete assessments of analytical items throughout the life cycle of CALIPSO and the build cycle of the launch vehicle. a.i. solutions shall perform a review of

Launch Service Provider (LSP) provided documents in order to ensure prompt technical assessments of all relevant issues that arise during the integration process. Evaluation of these issues may require a.i. solutions to perform an independent analysis in order to verify or better understand the LSP data. Documentation of evaluations and recommendations to NASA shall be such that NASA approval of analyses and/or direction to the Launch Service Provider for corrective actions can be accomplished.

This Technical Assistance Agreement (TAA) is required so that a.i. solutions can carry out its responsibilities. a.i. solutions personnel will perform the work on site at Vandenberg AFB, California to get the Delta launch vehicle and CALIPSO payload integrated and ready for launch, and other tasks required of it by the CALIPSO Project Plan and the ELVIS contract Statement of Work or SOW (ANNEX C).

a.i. solutions must be able to work closely with the U.S. launch services provider, The Boeing Company (Boeing), and with the French payload contractor, CNES, and with the main CNES spacecraft bus contractor Alcatel. a.i. solutions' work with Boeing, CNES and Alcatel may involve any or all of the services, tasks, and technical data described in the CALIPSO Project Plan and the ELVIS SOW. That is, a.i. solutions must be able to help integrate the spacecraft payload with the launch vehicle, assure its interfaces with ground systems are optimal, solve engineering and technical problems on the spot, and perform other, related work with Alcatel at Vandenberg.

This TAA does not include Boeing, BATC, CNES, Analex or Analex Corporation's subcontractor Science Applications International Corporation (SAIC). BATC and Boeing have their own TAAs with CNES, TA 0293-02, Analex has it's own TAA with CNES, TA 0966-04, a.i. solutions has it's own TAA with CNES, TA 1024-04, and other U.S. entities will submit their own license or TAA applications as these prove to be necessary.

2.   It is understood that this Technical Assistance Agreement is entered into as required under U.S. Government Regulations and as such, it is an independent agreement between the parties, the terms of which will prevail, notwithstanding any conflict or inconsistency that may be contained in other arrangements between the parties on the subject matter.

3.   The parties agree to comply with all applicable sections of the International Traffic in Arms Regulations (ITAR) of the U.S. Department of State and that more particularly in accordance with such regulations the following conditions apply to this agreement:

I.   ITAR Section 124.7

(1)   a.i. solutions will work with the French CALIPSO payload satellite partner, Alcatel. a.i. solutions' work with Alcatel may involve any or all of the services, tasks, and technical data described in the CALIPSO Project Plan and the ELVIS SOW. That is, a.i. solutions must be able to help integrate the spacecraft payload with the launch vehicle, assure its interfaces with ground systems are optimal, solve engineering and technical problems on the spot, and perform other, related work with Alcatel at Vandenberg. No hardware will be manufactured or exported under this agreement.

(2) NASA has procured and will provide launch services on a Boeing Delta II heavy-lift vehicle and pre-launch engineering support. This includes providing NASA engineering support for Alcatel spacecraft design and development (including mission design, associated Interface Control Documents or ICDs, payload processing and integration), identifying and implementing mission unique requirements, providing early orbit engineering support, and providing NASA oversight of the CALIPSO program as needed to satisfy requirements of the ICD. NASA and its contractors will jointly develop and verify ICDs on the interface between CALIPSO and the launch vehicle. a.i. solutions will support NASA with payload integration and testing (I&T) services on the launcher.

Meetings and telephone conversations/conferences will take place as necessary to maintain control of respective areas of responsibility, on an as required basis. As a general rule, no contractors will be in attendance without prior approval, on an as needed basis.

Working Groups will be conducted in accordance with the ELVIS contract.

Reviews and Launch Site Activities will be on an as required basis, and parties will be invited to attend as appropriate.

Technical interface will include ICDs, Contamination control plans, Launch Site Test Plan, Launch Site Procedures, etc., as per the CALIPSO Project Plan and the list of documents at EXHIBIT 3. No hardware will be shipped under this agreement. If it becomes necessary for a.i. solutions to ship hardware to Alcatel, a separate export license will be applied for.

(3) This TAA is to enter into effect on the date of the final signature and is to remain in effect until December 31, 2008.

(4) Technical data will be shared with Alcatel in France and with their employees in the U.S., mostly if not exclusively at Vandenberg Air Force Base, California and in its vicinity. a.i. solutions will deliver on-site support services to Alcatel's French personnel at Vandenberg or in its vicinity.

II.   ITAR Section 124.8

(1) This agreement shall not enter into force, and shall not be amended or extended without the prior written approval of the Department of State of the U.S. Government.

(2) This agreement is subject to all United States laws and regulations relating to exports and to all administrative acts of the U.S. Government pursuant to such laws and regulations.

(3) The parties to this agreement agree that the obligations contained in this agreement shall not affect the performance of any obligations created by prior contracts or subcontracts, which the parties may have individually or collectively with the U.S. Government.

(4) No liability will be incurred by or attributed to the U.S. Government in connection with any possible infringement of privately owned patent or proprietary rights, either domestic or foreign, by reason of the U.S. Government's approval of this agreement.

(5) The technical data or defense service exported from the United States in furtherance of this agreement and any defense article which may be produced or manufactured from such technical data or defense service may not be transferred to a person in a third country or to a national of a third country except as specifically authorized in this agreement unless prior written approval of the Department of State has been obtained.

(6) All provisions in this agreement which refer to the United States Government and the Department of State will remain binding on the parties after the termination of the agreement.

ADDITIONAL TERMS

1. This authorization expires December 31, 2008.

2. Sublicensing is not authorized under this agreement.

3. No shipments of hardware, software, technical data, or defense services may take place until all parties have executed the agreement. In accordance with 22 CFR 124.4(a), a copy of the signed agreement, revised as may be required by the Department of State, shall be submitted to the Office of Defense Trade Controls within 30 days from the date that it is signed. If a decision is made not to execute the approved agreement, the applicant shall so inform the Office of Defense Trade Controls within 60 days.

4. If the agreement is not executed within one year of the date of this approval, a written report as to the status of the agreement shall be submitted to the Office of Defense Trade Controls on an annual basis until the requirements of 22 CFR 124.4 or 22 CFR 124.5 have been satisfied.

5. Shipment of hardware against this agreement under the provisions of 22 CFR 123.16(b)(l) or by separate license (i.e., DSP-5) is not authorized'. Hardware shipment may take place only after the Department of State approves an amendment to the agreement.

6. The applicant shall not release detailed design data or concepts, design methodology, or manufacturing know-how for the Delta II launch vehicle, components, and ground support equipment. Technical procedures (to include the launch vehicle countdown procedure) that are launch vehicle specific are not authorized for release.

7. The applicant shall not provide any technical assistance to the consignee(s) who might assist the consignee(s) in the design, development; or enhancement of contemplated or existing space systems, launch facilities, or launch processes/operations.

8. All anomaly/problem resolution shall be accomplished strictly by the responsible parties. Collaborative failure analysis with foreign parties is not authorized. Anomaly/non-conformance/failure reports shall be limited to functional block diagrams, top-level descriptions, and drawings/schematics that do not reveal detailed design. Data shall not contain systems engineering processes, techniques, or methodologies.

9.   Information on U.S. Government (USG) systems, operations, limitations, or capabilities that is not already in the public domain shall not be offered, discussed, or released.

10.   Launch failure analysis or investigation is not authorized under this license. In case of a launch failure, discussions or transfer of any technical data shall be the subject of a separate license submitted for Department of State approval.

11.   There shall be no unmonitored or unescorted access to the launch vehicle or any controlled equipment or technical data related to the launch, unless otherwise authorized by a license. Whenever foreign nationals arc present, monitoring shall be on a 24-hour basis by U.S. participants throughout launch preparations, satellite mating/demating, test and checkout, launch, and debris recovery.

12.   The applicant shall maintain a library of released technical data subject to USG inspection and audit. The cost of DOD participation in any audit performed by the USG is reimbursable to the DOD.

14.   Applicant shall provide NASA HQ, Code ID/John F. Hall, Esq., 300 E. Street, SW, Washington, D.C. 20546, with a copy of this Department of State approval memo (license), and signed Technical Assistance Agreement.

15.   Applicant understands that NASA-controlled technical data listed in this TAA will be approved for transfer. Transfer of other NASA non-public-domain technical data in support of this TAA requires NASA approval. Applicant will contact Mr. John F. Hall, Esq. for approval (phone: 202-358-2070, fax: 202-358-4080, e-mail: john.f.hall@nasa.gov).

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed effective as of the day and year above provided.

Alcatel Space   a.i. solutions, Inc.

By:_____   By:_____

Joël Chenet   Robert Sperling
(printed/typed name)   (printed/typed name)

Title: Senior Vice President   Title: President & CEO
        Observation & Sciences

Date: February 9, 2005   Date: 2/14/05